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10/711,496	09/21/2004	Yen-Cheng Chen	AVIP0036USA	5495
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			ART UNIT 2625	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/711,496	Applicant(s) CHEN ET AL.	
	Examiner Jamares Washington	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:

“Generally, scanners can be cauterized into four types...” should read “Generally, scanners can be characterized into four types...” (At paragraph [4])

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for

purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 7, 8, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Carl J. Tesavis (US 20030086129 A1).

Regarding claim 1, Tesavis discloses an automatic document feeder (ADF) scanner (“Digital scanners use a number of transmissive or reflective electro-optical sensors to control the movement of paper through the automatic document feeding (ADF) portion of a scanner” at paragraph [2]) having a scanning module capable of positioning on a first scan position accurately (“...the CCD of the scanners scan modules...also operate as sensors and are used to locate and measure mechanical offsets from feeder to scan module and from home to scan area of the glass platen...” at paragraph [8]), the automatic document feeder scanner comprising:

a housing (Fig. 2);

an automatic document feeder installed on the housing for conveying a first document (Fig. 2 numeral 34 “ADF portion” at paragraph [20]);

a first predetermined pattern installed on a bottom surface of the automatic document feeder (Fig. 3 numeral 27 “White Patch”), the first predetermined pattern having a first specific relative position relation with the first scan position (Fig. 3 numerals 27 and 29 “White patch and Lower camera” respectively). The first scan position happens to be the home position which is relatively set by the “white patch” detection.

a scanning module installed in the housing for capturing image data of the first document (“According to the present invention a scanner controls the feeding and imaging of documents by using a CCD camera as both scanner and sensor” at paragraph [6]);

and a processor installed in the housing for controlling the scanning module and the ADF (“According to the present invention a scanner controls the feeding and imaging of documents by using a CCD camera as both scanner and sensor...” at paragraph [6]. “This is done by adding logic to the front-end hardware that receives data from the camera, and by controlling that hardware in the scanner firmware...” at paragraph [7]), and for determining a distance between the scanning module and the first scan position by analyzing the image data of the first predetermined pattern captured by the scanning module (“...the CCD of the scanners scan modules...operate as sensors and are used to locate and measure mechanical offsets from feeder to scan module” at paragraph [8]. “Given that the document is moving at a constant velocity and the UDDS 28 is a known distance 39 from the CCD aperture the PPC can begin a timer to determine when the document will enter the CCD 26 and 29” at paragraph [22]. “At this point the PPC will setup the secondary sensor 14 of the FEC 1 to detect the edge of the lower white patch 27 and enable the SSE 95. The PPC 15 will then command the motor controller 19 to slow step in the home direction 92 and will receive an interrupt from the FEC 93 when the white patch label is detected” at paragraph [30]). The detection of the first predetermined pattern (the white patches) allows the CCD to return to its home position where it is then used for scanning documents from the ADF.

Regarding claim 2, Tesavis discloses the automatic document feeder scanner of claim 1, wherein the scanning module positioned on the first scan position is capable of capturing the whole first document conveyed over the automatic document feeder (“Once the document is in the ADF 34 it will be moved at a constant velocity through the upper and lower CCDs until it ends up in the output tray. The purpose of moving the paper through the CCDs 26 and 29 is to capture a digital version of the image on front and rear side of the document” at paragraph [21]). The first scan position would be the home position of the lower camera as depicted in Fig. 3.

Regarding claim 7, Tesavis discloses the automatic document feeder scanner of claim 1 further comprising a memory for storing a mapping table to map an image data of the first predetermined pattern to a length, the processor mapping an image data of the first predetermined pattern captured by the scanning module onto the mapping table and finding out a length corresponding to the captured image data, and determining the distance between the scanning module and the first scan position (“The platen type label has features which allows the scanner system to identify the type and size of the attached platen by capturing an image of it and analyzing characteristics of the image compared to known values as well as the location and size of the imaging area” at paragraph [29]).

Regarding claim 8, Tesavis discloses the automatic document feeder scanner of claim 1 further comprising a transparent document board for a second document to be placed on (Fig. 3 numeral 41 “Platen section”), and a second predetermined pattern installed on a bottom surface of the transparent document board (Fig. 3 numeral 30 “Platen Type Label”), the second

predetermined pattern having a second specific relative position relation with a second scan position (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction... When the camera reaches the platen type label with the SSE setup, as previously described, an interrupt is received by the PPC generated by the FEC 12 it will in turn generate valid page 86 and the imaging hardware will begin capturing the image...” at paragraph [29]), on which the scanning module can capture the whole second document (“The platen type label has features which allows the scanner system to identify the type and size of the attached platen by capturing an image of it and analyzing characteristics of the image compared to known values as well as the location and size of the imaging area. The motor controller 19 CPU will eventually recognize a point near the end of the move 87 and notify the PPC that it is about to decelerate via an interrupt 88” at paragraph [29]), and the processor further comprising a capability to determine a distance between the scanning module and the second scan position by analyzing an image data of the second predetermined pattern captured by the scanning module (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction at the velocity required for the specified resolution... When the camera reaches the platen type label with the SSE setup, as previously described, an interrupt is received by the PPC generated by the FEC 12” at paragraph [29]).

Regarding claim 13, Tesavis discloses an automatic document feeder scanner comprising:
a housing (Fig. 2);

an automatic document feeder installed on the housing for conveying a first document (Fig. 2 numeral 34 “ADF portion” at paragraph [20]);

a scanning module installed in the housing for capturing image data of the document (Fig. 2 numeral 25);

a position detector installed in the housing for detecting a relative position relation between the automatic module document feeder and where the scanning module is located in the housing (“...the CCD of the scanners scan modules, sometimes referred to as cameras, also operate as sensors and are used to locate and measure mechanical offsets from feeder to scan module” at paragraph [8]); and

a processor installed in the housing for controlling the movement of the scanning module according to the relative position relation between the automatic document feeder and where the scanning module is located in the housing (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction...” at paragraph [29]). Since the home position is the ADF scan position, the module is moved according to a location compared to the ADF.

and for controlling the scanning module to capture the image data of the document conveyed over the automatic document feeder (“...the FEC 1 must provide the functionality to permit the power PPC 15 the ability to capture images for documents fed through the ADF portion 34 of the scanner” at paragraph [20]) .

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carl J. Tesavis (US 20030086129 A1) in combination with Jenn-Tsair Tsai et al (US 6381043 B1).

Regarding claim 3, Tesavis discloses the automatic document feeder scanner of claim 1. Tesavis also teaches a predetermined pattern (Fig. 3 numeral 27) which has a first side perpendicular to a moving line along which the scanning module is passing (Fig. 2 numeral 38 "Scanning module moving along the path as depicted which is perpendicular to the "shorter" sides of the rectangular white patch).

Tesavis fails to teach the first predetermined pattern is an isosceles right-angled triangle, with an apex corresponding to the first side, the apex having the first specific relative position relation with the first scan position.

Tsai et al, in the same field of endeavor of determining an accurate scan start position according to reference marks disposed on a scanner ("...an object of the present invention is to provide for an image scanner a device for quickly and precisely determining a scan start point and improving the scanning quality, in which the error resulting from the misreading of the coordinates of the contamination spots can be avoided..." at column 3 line 25. Tsai), discloses the first predetermined pattern being an isosceles right-angled triangle (Fig. 4 numerals 422 and

423 "...The color block 422 is designed to have a shape of an isosceles and right-angled triangle..." at column 6 line 39. "Generally but not necessarily, the background region 424 is of standard white, and the color blocks 422 and 423 are separately printed within the white background region 424 with standard black" at column 6 line 36. Tsai), and an apex corresponding to the first side (Fig. 4 numeral 422, First side being side CD and apex A), the apex having the first specific relative position relation with the first scan position ("...the CCD 411 further moves a distance L2 from the point A to the scan start point to start a scanning operation. The distance L2 is predetermined to make the scanning operation start when or immediately before the CCD 411 reaches the document line 421" at column 7 line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an isosceles right-angled triangle as disclosed by Tsai as the white patch reference mark disclosed by Tesavis because "the coordinate of each of the points constituting the pattern marks...can be calculated under certain known conditions through triangular functions" (at column 2 line 35, Tsai).

Regarding claim 4, the Tesavis-Tsai combination discloses the automatic document feeder scanner of claim 3, wherein the isosceles right-angled triangle is solid ("...color blocks 422 and 423 are separately printed within the white background region 424 with standard black" at column 6 line 36. Tsai), the processor determining the distance between the scanning module and the first scan position by measuring a length of the first predetermined pattern captured by the scanning module ("...the CCD 411 further moves a distance L2 from the point A to the scan start point to start a scanning operation. The distance L2 is predetermined to make the scanning

operation start when or immediately before the CCD 411 reaches the document line 421” at column 7 line 3, Tsai).

Regarding claim 5, the Tesavis-Tsai combination discloses the automatic document feeder scanner of claim 3, wherein the isosceles right-angled triangle is hollow, as it does not contain any other objects within its three sides.

The Tesavis-Tsai combination fails to teach the processor determining the distance between the scanning module and the first scan position by measuring a distance between two ending points of the first predetermined pattern captured by the scanning module.

Tsai further discloses the claimed limitations presented above (Fig. 4 numeral 422 with two ending points being point J and point K at a distance $L1+L2$ away from the first scan position “S”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the processing method disclosed by Tsai where the distance from the scan position and the scanning module is calculated according to two ending points of the first predetermined pattern in the processor of the automatic document feeder disclosed by the Tesavis-Tsai combination to allow the scanning module to be in a pre-scan position before proceeding a calculated distance to the “first specified point” and perform a pre-scan operation which is “used to correct the scanning result so as to obtain a better scanning quality” (at column 7 line 40. Tsai).

Regarding claim 6, the Tesavis-Tsai combination discloses the automatic document feeder scanner of claim 1, wherein the processor (Fig. 1 numeral 15 “PPC”. Tesavis) is capable of controlling the scanning module to move from a home position to the first scan position (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction” at paragraph [29]. Tesavis), and the first predetermined pattern (Fig. 4 numeral 422 of Tsai combined with the ADF scanner of Tesavis, Fig. 2 numeral 34. Substituting the “white patch” shown in figure 2 numeral 27 with the predetermined pattern disclosed by Tsai in figure 4 numeral 422) is installed on an area of the bottom surface of the scanner where the scanning module while moving from the home position to the first scan position can capture the first predetermined pattern (“When the camera reaches the platen type label with the SSE setup, as previously described, an interrupt is received by the PPC generated by the FEC 12 it will in turn generate valid page 86 and the imaging hardware will begin capturing the image” at paragraph [29], Tesavis.)

Regarding claim 9, the Tesavis-Tsai combination discloses an automatic document feeder scanner having a scanning module capable of positioning on a first scan position accurately, the automatic document feeder scanner comprising:

- a housing (Fig. 2, Tesavis);

- an automatic document feeder installed on the housing for conveying a first document (Fig. 2 numeral 34 “ADF portion” at paragraph [20]. Tesavis), the automatic document feeder having a bottom surface and a first predetermined pattern installed on the bottom surface (“Fig. 4 numeral 422 of Tsai combined with the ADF scanner of Tesavis, Fig. 2 numeral 34. Substituting

the “white patch” shown in figure 2 numeral 27 with the predetermined pattern and method disclosed by Tsai in figure 4 numeral 422.);

a first predetermined pattern installed on a bottom surface of the automatic document feeder, the first predetermined pattern having a first specific relative position relation with the first scan position (“...the CCD 411 further moves a distance L2 from the point A to the scan start point to start a scanning operation. The distance L2 is predetermined to make the scanning operation start when or immediately before the CCD 411 reaches the document line 421” at column 7 line 3”. Tsai);

a scanning module installed in the housing for capturing image data of the first document (Fig. 2 numerals 26. Tesavis);

a memory installed in the housing for storing a first mapping table, which maps image data of the first predetermined pattern captured by the scanning module onto a variety of first length (“The platen type label has features which allows the scanner system to identify the type and size of the attached platen by capturing an image of it and analyzing characteristics of the image compared to known values as well as the location and size of the imaging area” at paragraph [29]. Tesavis) “Known values” would have to be kept in a memory in the imaging device.; and

a processor installed in the housing for controlling the scanning module and the ADF (Fig. 1 numeral 15 “PPC”), and for finding out a first length corresponding to the captured image data in the mapping table according to the captured image data of the first predetermined pattern captured by the scanning module (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan

direction” at paragraph [29]. Tesavis), and determining the distance between the scanning module and the first scan position according to the found first length (“Fig. 4 numeral 422 with two ending points being point J and point K at a distance $L1+L2$ away from the first scan position “S”. Tsai). *All motivation for combinations made are incorporated by reference from previous rejections made above.

Regarding claim 10, the Tesavis-Tsai combination discloses the automatic document feeder scanner of claim 9, wherein the scanning module positioned on the first scan position can capture the whole first document conveyed over the automatic document feeder (“Once the document is in the ADF 34 it will be moved at a constant velocity through the upper and lower CCDs until it ends up in the output tray. The purpose of moving the paper through the CCDs 26 and 29 is to capture a digital version of the image on front and rear side of the document” at paragraph [21]. Tesavis).

Regarding claim 11, the Tesavis-Tsai combination discloses the automatic document feeder scanner of claim 9, wherein the processor is capable of controlling the scanning module to move from a home position to the first scan position (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction” at paragraph [29]. Tesavis), and the first predetermined pattern (Fig. 4 numeral 422 of Tsai combined with the ADF scanner of Tesavis, Fig. 2 numeral 34. Substituting the “white patch” shown in figure 2 numeral 27 with the predetermined pattern disclosed by Tsai in figure 4 numeral 422) is installed on an area of the bottom surface of the scanner where the

scanning module while moving from the home position to the first scan position can capture the first predetermined pattern (“When the camera reaches the platen type label with the SSE setup, as previously described, an interrupt is received by the PPC generated by the FEC 12 it will in turn generate valid page 86 and the imaging hardware will begin capturing the image” at paragraph [29], Tesavis.)

Regarding claim 12, the Tesavis-Tsai combination discloses the automatic document feeder scanner of claim 9 further comprising a transparent document board for a second document to be placed on (Fig. 3 numeral 41 “Platen section” Tesavis), and a second predetermined pattern installed on a bottom surface of the transparent document board (Fig. 3 numeral 30 “Platen Type Label” Tesavis), the second predetermined pattern having a second specific relative position relation with a second scan position (“Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction... When the camera reaches the platen type label with the SSE setup, as previously described, an interrupt is received by the PPC generated by the FEC 12 it will in turn generate valid page 86 and the imaging hardware will begin capturing the image...” at paragraph [29] Tesavis), on which the scanning module can capture the whole second document (“The platen type label has features which allows the scanner system to identify the type and size of the attached platen by capturing an image of it and analyzing characteristics of the image compared to known values as well as the location and size of the imaging area. The motor controller 19 CPU will eventually recognize a point near the end of the move 87 and notify the PPC that it is about to decelerate via an interrupt 88” at paragraph [29]

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Tesavis), and the processor further comprising a capability to determine a distance between the scanning module and the second scan position by analyzing an image data of the second predetermined pattern captured by the scanning module ("Initially the PPC will command the platen motor to move the lower camera from home to a distance in steps equal to the length of the move 38 in the scan direction at the velocity required for the specified resolution... When the camera reaches the platen type label with the SSE setup, as previously described, an interrupt is received by the PPC generated by the FEC 12" at paragraph [29] Tesavis).

*Regarding claims 1, 6, 9, 11, and 12 it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamares Washington whose telephone number is (571) 270-1585. The examiner can normally be reached on Monday thru Friday: 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jamares Washington
Junior Examiner
Art Unit 2625



JW

05/25/07



AUNG S. MOE
SUPERVISORY PATENT EXAMINER

5/29/07